

**State of Idaho****DEPARTMENT OF WATER RESOURCES**

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Phone: (208) 327-7900 Fax: (208) 327-7866 Web Site: [www.idwr.state.id.us](http://www.idwr.state.id.us)**DIRK KEMPTHORNE**  
Governor**KARL J. DREHER**  
Director

March 7, 2002

Mr. Rogers,

Attached is some information on commercial pitot tubes that we discussed over the phone yesterday. This type of device may be suitable for measuring many of the re-diversion pumps from the Timberdome. Cost is very economical. Perhaps the company could obtain one of these and install the ports for the device. As I said, the former watermaster (George Lemmon) from Hagerman valley used one of these for many years. I think his was from the same manufacturer. It generally performed pretty well and matched pretty close to our meter measurements on the smaller pipe sizes, up to 10 or 12 inches or so. His device was quite old and may have been worn out somewhat – something that he acknowledged. He was making these himself a few years back. I'm not sure he is still making any or if he would have any for sale. You might be better off buying directly from the attached manufacturer.

Regards,

A handwritten signature in black ink, appearing to read 'Tim Luke', is written over a printed name.  
Tim Luke

Cc: Mitch Sorensen  
Juel Aikele  
Doug Rosenkrance

# Cox Piro-Swivel Manometer Velocitygag

## EASY INSTALLATION

1. Easily installed in vertical position.
2. Can be installed on high pressure lines without disturbing pressure.
3. Calibrations available for 2" through 20" inside diameter (I.D.) pipes.

## EASY OPERATION

1. Direct reading in velocity ft./sec.
2. Engraved gauge fully visible.
3. A simplified method of measuring the velocity of water.

## DURABILITY

1. Pressures to 250 pounds per square inch.
2. Scale calibration engraved.
3. All other parts hard drawn polished brass & plexiglass.
4. O-ring packed.
5. Accurate precision instrument.
6. One moving part.

## USES FOR PIRO-VELOCITYGAGE

1. Industrial & private water & power companies for customer service.
2. Irrigation districts to check deep well and booster pumps & diversions from main canals.
3. Municipalities to watch accuracy of totalizing meters and make studies of the water systems.
4. Ranches to measure distribution of water to each crop.
5. Colleges for laboratory and field work, portable test instrument.
6. Geological surveys to analyze ground water conditions.
7. Water treatment—swimming pools.
8. Chilled water flow air conditioning, refrigeration plants.



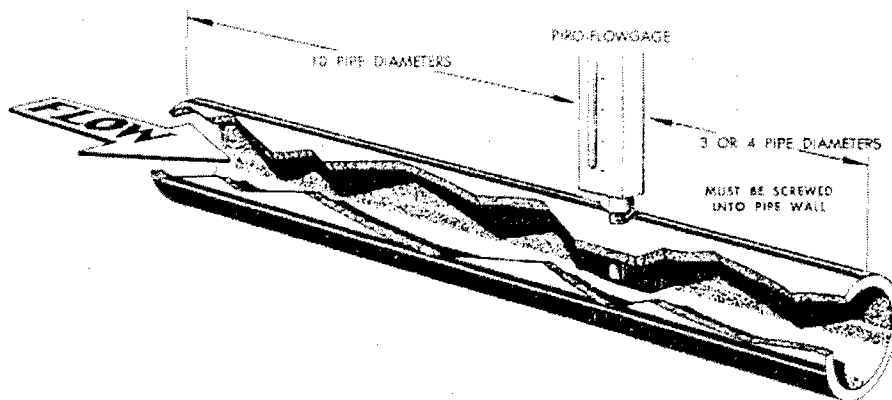
# INSTALLATION AND OPERATION INSTRUCTIONS

## HORIZONTAL PIPE

Drill and tap  $\frac{1}{2}$ " iron pipe size in top of pipe. Pipe must be horizontal to receive the instrument so that it will stand vertical. It should be approximately 10 pipe diameters or more from upstream ells, bends, valves, etc., and have 4 or 5 pipe diameters of straight run of pipe downstream from the instrument.

Screw the gage into the tapped hole with a wrench on the hexagonal brass nut. **Do not put strain on plexiglass.** Rotate so that the arrow points in the direction of flow and so the side of plexiglass is parallel with the pipe.

Bleed all air out at the top valve and read under the side of the floater indicator cone.



## VERTICAL PIPE

Drill and tap  $\frac{1}{2}$ " iron pipe size in the side of the vertical pipe to receive the instrument. Loosen the manometer screw and swivel the manometer into a vertical position. Re-tighten the manometer screw until the O-ring seals show in the manometer fully sealed. The flowmeter should be approximately 10 pipe diameters or more from upstream ells, bends, valves, etc., and have 4 or 5 pipe diameters of straight run of pipe downstream from the instrument.

Screw the gage into the tapped hole with a wrench on the hexagonal brass nut. **Do not put strain on plexiglass.** Rotate so that the arrow points in the direction of the flow and so the side of the plexiglass is parallel with the pipe.

Bleed all air out at the top valve and read under the side of the floater indicator cone.

